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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,111	06/25/2001	Jang-Kun Song	6192.0214.AA	7306

7590 07/18/2003

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EXAMINER
SEFER, AHMED N

ART UNIT	PAPER NUMBER
2826	

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/887,111	SONG ET AL.	
	Examiner	Art Unit	
	A. Sefer	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. Claim 1 is objected to because of the following informalities: The limitation "a first electrodeformed" recited in claim 1 should read, "a first electrode formed". In addition, the word "transitting" recited in claim 9 should probably read "transmitting". Appropriate correction is required.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: There is insufficient antecedent basis for the limitations "the UV light" and "the monomers" recited in claim 12.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation "polymer barrier" recited in claims 1 and 8 is not fully disclosed in the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
(e) the invention was described in-
(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 1-7, as understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Yoon et al. US PG-Pub 2001/0007487.

Yoon et al disclose (see figs. 1-8 and par. 0093) a liquid crystal display, comprising a first substrate 1; a second substrate 60 facing the first substrate; a liquid crystal layer 90 sandwiched between the first and the second substrates, the liquid crystal layer having a polymer barrier at each pixel region; a first electrode 50 formed at said first substrate; a second electrode 80 formed at said second substrate; and wherein said first substrate and said second substrate apply an electric field to said liquid crystal layer.

As to claim 2, Yoon et al disclose an electrode having an opening pattern 51 at each pixel region and, the polymer barrier is positioned corresponding to the opening pattern.

As to claim 3, Yoon et al disclose second substrate provided with a color filter 61 at each pixel region, the color filter having a groove 81 corresponding to the opening pattern of said first electrode.

As to claims 4 and 5, Yoon et al disclose in fig. 6 a protrusion formed on or under (as in claim 5) the opening pattern.

As to claim 6, Yoon et al disclose a first vertical alignment layer 22 formed on the first electrode, and a second vertical alignment layer 12 formed on the second substrate.

As to claim 7, Yoon et al disclose (see par. 0035) a liquid crystal layer bearing a negative dielectric anisotropy.

7. Claim 1, as understood, is rejected under 35 U.S.C. 102(e) as being anticipated by Sekiguchi US 6,084,650.

Sekiguchi discloses (see fig. 26 and col. 24, lines 6-19) a liquid crystal display, comprising a first substrate 1; a second substrate 6 facing the first substrate; a liquid crystal layer 16 sandwiched between the first and the second substrates, the liquid crystal layer having a polymer barrier at each pixel region; a first electrode 5 formed at said first substrate; a second electrode 9 formed at said second substrate; and wherein said first substrate and said second substrate apply an electric field to said liquid crystal layer.

8. Claims 8, 10, 11 and 13-15, as understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Yoon et al. US PG-Pub 2001/0007487.

Yoon et al disclose (see figs. 1-8 and par. 0093) a method for fabricating a liquid crystal display, comprising the steps of arranging a first substrate 1 and a second substrate 60 such that the first substrate and the second substrate face each other; injecting liquid crystal 90 between the first substrate and the second substrate to form a liquid crystal layer; and to forming a polymer barrier at the liquid crystal layer.

As for claims 10, 13 and 14, Yoon et al disclose figs. 6 and 8 forming a first electrode 21/50 on the first substrate; and forming a second electrode 11/80 on the second substrate; wherein at least one of the first electrode and the second electrode has an opening pattern

211/81, wherein a protrusion is formed on or under (as in claim 14) the opening pattern (as in claim 13).

As for claim 11, Yoon et al disclose forming color filters 61 at the second substrate, each color filter having a groove 81 corresponding to the opening pattern.

As to claim 15, Yoon et al disclose (see par. 0035) a liquid crystal layer bearing a negative dielectric anisotropy.

9. Claims 8, 9 and 12, as understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Sekiguchi US 6,084,650.

Sekiguchi discloses (see fig. 26 and col. 24, lines 6-19) a method for fabricating a liquid crystal display, comprising the steps of arranging a first substrate 1 and a second substrate 6 such that the first substrate and the second substrate face each other; injecting liquid crystal 16 between the first substrate and the second substrate to form a liquid crystal layer; and to forming a polymer barrier at the liquid crystal layer.

As for claims 9 and 12, Sekiguchi discloses a liquid crystal layer containing monomers having a property of transitting phases when light is illuminated or UV light is illuminated to the monomers through the groove 11g at the step of forming the barrier of polymer (as in claim 12).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (703) 605-1227.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601.

ANS
July 13, 2003

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800